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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/738,383	12/16/2003	Chickayya Naik	CISCP846	7259
26541	7590	12/19/2008		
Cindy S. Kaplan P.O. BOX 2448 SARATOGA, CA 95070			EXAMINER NOORISTANY, SULAIMAN	
			ART UNIT 2446	PAPER NUMBER
			MAIL DATE 12/19/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/738,383	Applicant(s) NAIK ET AL.	
	Examiner SULAIMAN NOORISTANY	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-16,18-22 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-16,18-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/16/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

This Office Action is response to the application (10/738383) filed on 09/252008

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 5-8, 10-16, 19-22, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lee** U.S Patent No **US 6879594** in view of **Hensbergen** U.S Patent No **US 20080181224** further in view of **Wang** US Patent No. **US 6,538,997**.

Regarding claims 1, Lee teaches wherein a method for distributing multicast traffic in a layer 2 network, said method comprising:

forming a multicast distribution tree based on a spanning tree defined within said layer 2 network (**A plurality of switches interconnected by trunks may be arranged to form a spanning tree (MDT) or a multicast distribution tree – col. 1, lines 64-66**);
and

However, Lee is silent in terms of “*forwarding multicast traffic from a switch said layer 2 network, via said multicast distribution tree*” .

Hensbergen teaches that it is well known to utilize a system for forwarding multicast traffic from a switch said layer 2 network, via said multicast distribution tree” **(switches forward all multicasting traffic to all their ports “here is port is same as MAC address” – [0042])** in order to make the system more efficient.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee’s invention by utilizing a data packet to be transmitted on a private network, where the data is divided into a plurality of packets and a MAC header is added to each packet. The header contains hardware addresses of the transmitting and receiving hosts as well as parameters of the data being transmitted, as taught by Hensbergen (abstract).

However, Hensbergen is silent in terms of “*wherein said multicast traffic is forwarded to a media access control (MAC) address assigned to a multicast distribution group.*”

Wang teaches that it is well known to have “wherein said multicast traffic is forwarded to a media access control (MAC) address assigned to a multicast distribution group.”**(forwarded over all outgoing ports of the multicast distribution tree -- col. 8, lines 44-45).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee’s invention by utilizing an identifier of the layer-2 intermediate node, where the data include a medium access control (MAC) address of the layer-2 intermediate node. The data may also include a number corresponding to a time at which the packet traversed through the layer-2 intermediate node. In addition the

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packet has a layer-2 payload that includes an address corresponding to a node in the set of destination nodes. Furthermore, the address corresponding to a node in the set of destination nodes includes a logical link control address assigned to a bridge spanning tree protocol. The address corresponding to a node in the set of destination nodes includes a MAC address, according to another aspect of the invention. The MAC address may include a unicast address or a multicast address, as taught by Wang.

Regarding claims 2, Lee, Hensbergen and Wang further teaches a method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

Lee further teaches wherein receiving at a switch, via a first port, a join message for a multicast distribution group (**JOIN request “here same as join message” – col. 1, lines 64 – col. 2, lines 14**);

establishing state information for said multicast distribution group based on said join message, if such state information has not already been established (**accepting the mapping for said single node if no previous bindings exist; and if said previous bindings exist when said subtree is attached to said Multi-Protocol Label Switching tree – col. 11, lines 38-44**); and

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group (**Fig. 3 -- label mapping – col. 5, lines 27-28**) and;

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Lee further teaches wherein forwarding said join message toward a root bridge of said layer 2 network (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Hensbergen further teaches wherein “adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group” (**switches forward all multicasting traffic to all their ports “here is port is same as MAC address except the port on which the data arrives. However, a system administrator may program a switch to forward certain data traffic to certain ports or to certain MAC addresses, thus creating virtual LANs (VLANs) within the switched infrastructure – [0042]).**

Wang further teaches wherein “adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group” (**An IP addresses input on the command line will be resolved to the corresponding MAC address before layer-2 trace proceeds. This may require the sending of ARP requests if the corresponding address mappings are not present in the node's ARP cache. However, if the path being traced is between a device that may not have an IP address (for example, some switches may not have an IP address), then the corresponding MAC address is used on the command line – col. 6, lines 30-38).**

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Regarding claim 5, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Wang further teaches wherein flooding said join message via a spanning tree of said layer 2 network **(the frame is "flooded" over all outgoing non-blocked ports – col. 6, lines 61-63).**

Regarding claim 6, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received **(Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Claims 7 have the similar limitation as claim 2; therefore, it's rejected under the same rationale as in claim 2.

Regarding claim 8, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received **(Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p)**

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and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).

Claim 10 list all the same elements of **claims 1-2**, but in method for operating rather than method form. Therefore, the supporting rationale of the rejection to **claims 1-2** applies equally as well to **claim 10**.

Regarding claim 11, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Claim 12 list all the same elements of **claim 1**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 12**.

Claim 13 list all the same elements of **claim 1-2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 13**.

Regarding claim 14, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

Claim 15 list all the same elements of **claim 1**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 15**.

Claim 16 list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 16**.

Regarding claim 19, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Wang further teaches wherein flooding said join message via a spanning tree of said layer 2 network (**the frame is "flooded" over all outgoing non-blocked ports – col. 6, lines 61-63**).

Regarding claim 20, Lee, Hensbergen and Wang taught the method for operating a

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node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Claim 21 list all the same elements of **claim 1-2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 21**.

Regarding claim 22, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

Claim 24 list all the same elements of **claim 1-2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 24**.

Regarding claim 25, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

Claim 26 list all the same elements of **claim 1-2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 26**.

Claim 27 list all the same elements of **claim 1-2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 27**.

Claim 28 list all the same elements of **claim 1-2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 28**.

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Claim 29 list all the same elements of **claim 1-2**, but in apparatus rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 29**.

Claim 30 list all the same elements of **claim 1-2**, but in apparatus rather than method form. Therefore, the supporting rationale of the rejection to **claim 1-2** applies equally as well to **claim 30**.

Claims 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lee** U.S Patent No **US 6879594** in view of **Hensbergen** U.S Patent App. No **US 20080181224** further in view of **Wang** US Patent No. **US 6,538,997** further in view of **Reader** U.S Patent App. No **US 20050080901**.

Regarding claims 4, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. However, Lee, Hensbergen and Wang are silent in terms of “*wherein said join message comprises an IGMP Join message.*”

Reader teaches wherein “wherein said join message comprises an IGMP Join message.” **(the LAN switch enforces the multicast group authorization attendant to "snooping" of IGMP membership reports received from end stations – [0007, 0017])** in order to make the system more efficient.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's invention by utilizing end systems 160A through 160N that wish to join the multicast group send to router 130 an IGMP membership report message identifying the multicast group. In response, router 130 arranges to forward to LAN switch 150, for relay to the ones of end systems 160A through 160N that are registered destination hosts in the multicast group, packets addressed to the multicast group, as taught by reader [0017].

Regarding claims 18, Lee, Hensbergen and Wang taught the method for operating a node in a layer 2 network to handle multicast traffic as in claim 2 above. However, Lee, Hensbergen and Wang are silent in terms of *"wherein said join message comprises an IGMP Join message."*

Reader further teaches wherein "wherein said join message comprises an IGMP Join message." **(the LAN switch enforces the multicast group authorization attendant to "snooping" of IGMP membership reports received from end stations – [0007, 0017]).**

Response to Amendment

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Applicant's arguments with respect to claim(s) 1-2, 4-8, 10-16, 18-22, 24-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is 571-270-1929. The examiner can normally be reached on Monday Through Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Pwu can be reached on 571-272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sulaiman Nooristany 12/10/2008

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446